Technology: Optoelectronics

Nichia sales up

The *Nihon Keizai Shimbun* newspaper reports that Nichia of Japan expects to record sales of ¥220bn ($2.1 bbn) for its current fiscal year ending December '04, representing an 18% rise in sales compared with the ¥180bn ($1.7bn) that it expects to record for '03. About 80% of the 2003 figures is expected to come from LEDs.

Archcom and VSK Photonics

Archcom Technology Inc has completed its merger transaction with VSK Photonics Inc, a provider of receive side optical components InP semiconductor technology. The combined companies will offer a complete line of transmit and receive side optical components for the datacom, telecom and military/aerospace markets.

The merged company will keep the Archcom Technology name and CEO Dr Dick Chen will be the CEO of the merged company. "The complementary products and technologies of Archcom and VSK are an ideal combination." said Dr. Chen.

Dr Timothy Vang, CEO of VSK, will lead the receiver product line as executive VP of Archcom. "VSK is very excited to join forces with Archcom. We expect the merged company to provide one-stop shopping for transponder and transceiver suppliers and to become a recognised leader of active optical components," he said.

As part of the deal, Archcom closed its Series B financing with additional capital from existing VSK investors Morgenthaler Ventures and Rustic Canyon Partners. Michael Kim, a partner at Rustic Canyon, will join the Archcom board of directors.

Core-to-the-door solutions

Infineon Technologies announced new technology developments at the OFC Conference for high-speed data- and telecommunications markets.

Among these, a 1310 nm VCSEL laser supporting data rates of 10 Gbps will be deployed in future versions of Infineon's XPAK, XFP and X2 form factor modules. This device is shown in an LC-TOSA, based on an innovative, low-cost packaging technology that is run on Infineon's high-volume backend lines for IC packaging.

An 850 nm VCSEL laser for data rates of up to 2.5 Gbps is available, while 1310 nm VCSELs allow for transmission distances of up to 10 km. VCSELs with an 850nm wavelength have come to dominate shortreach datacom applications of up to 500m.

X2 MSA transceivers with extended reach of up to 300 meters over legacy fiber, use a 1310 nm laser with EDC technology.

The Optical Network Terminals (ONT) for Passive Optical Networks (PON) solutions are based on the Triport-BIDI optical module, while the MetroMapper 622 Mapper /Framer delivers Ethernet-over-SONET and an RPR line card based on Infineon's Frea RPR MAC chip in the portfolio.

Nikon ships THz machines

Nikon Corp has developed its first commercial terahertz spectroscope that emits light in the far-infrared to microwave spectrum, allowing applications such as security screening, chemical identification and disease diagnosis.

Nikon plans to ship its first terahertz machine to Riken, a research institute based in Tokyo, by the end of this month according to Jun Iwasaki, president of the Nikon's Tochigi Nikon unit.

Terahertz machines may open new markets for Nikon, which suffered declining sales in the past two fiscal years as demand for chip making equipment and film-based cameras waned. Nikon estimates total annual markets of $1.9bn for security and $4.75bn for medical devices, and will position terahertz light as a safe alternative to X-ray and other machines.

The machines are priced at between ¥40m to ¥50m. A second machine will ship to Tohoku University, Japan.

Tochigi Nikon is also developing a Terahertz Imaging Machine and it plans to make its first machine by March 2005. It will use a charged coupled device camera, a similar technology to that used in video cameras, to capture images from terahertz light reflections.

Optical power meter & light sources

HIOKI has introduced the Model 3661-20 optical power meter and two light sources, the Hioki Model 3663-20 (1310 nm) and the Model 3662-20 (1550 nm), available from Power Parameters.

The Hioki Model 3661-20 Optical Power Meter is a handheld, alkaline battery-powered instrument with InGaAs detector for power measurement at the wavelengths of 850nm, 1310nm and 1550nm, with a power range of -60dBm to +9dBm. The instrument has an accuracy of ±0.22dB at -10dBm and a resolution of 0.01dB.

Single and multi-mode fibres and FC as well as SC connectors are accommodated using optional adaptors. Data storage capacity is 1000 max data points for each of the supported three wavelengths. The power meter has an USB interface for data transfer in CSV format to computers operating with Windows 98, Me, 2000 and XP platforms.

The instrument has a large LCD and is easy to operate. It has an auto data save feature, safety check against accidental erasure of data and has built-in dust and dirt protection cap for the protection of the optical interface.

The alkaline-battery powered Hioki models 3662-20 and 3663-20 use semiconductor laser diodes to provide 1550 ± 20nm and 1310 ± 20nm respectively, in CW and modulated signals (270Hz, 1kHz and 2kHz), with an output level of -6 ±2dBm. The sources have excellent power stability, at ± 0.1dBm, over 5 minutes at constant temperature and within 1dB p-p over 8 hours at 40°C. Optional FC and SC output connectors are available.

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